

APPLICANT(S): STELLACCI, Francesco  
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### **REMARKS**

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

### **Status of Claims**

Claims 1, 40, 49, 50, 52, 57, 97, 106, 107, 109, 111, 112, 145, 146, 177-180, 182, 183, 215, 216, 246 and 247 are pending. Claims 111, 112, 145, 146, 177-180, 182, 183, 215 and 216 are withdrawn. Claims 1, 40, 49, 50, 52, 57, 97, 106, 107, 109, 246 and 247 have been rejected.

Claims 1, 57, 246 and 247 have been amended. Support for the amendments to claims 1, 57, 246 and 247 can be found on page 6, [0066], page 7, [0072], page 9 end of [0089] for magnetic field, page 10, [0098], and in examples 1-4 of the Application as published.

Applicants respectfully assert that the amendments to the claims add no new matter.

### **CLAIM REJECTIONS**

#### **35 U.S.C. § 103 Rejections**

In the Office Action, the Examiner rejected claims 1, 49, 50, 52, 57, 106, 107, 109, 246 and 247 under 35 U.S.C. § 103(a), as being unpatentable over Guire *et al.* [US 6,514,768] in view of Liang *et al.* [US 2003/0148304].

Applicants thank the Examiner for the Advisory Action dated 04 August, 2009.

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In the Advisory Action, the Examiner noted that "the method recited in the claims do not recite the details involved in disassociation and binding".

Applicants have amended claims 1, 57, 246 and 247 to add reference to details involved in disassociation and binding. Support for the amendments can be found on Support for the amendments to claims 1, 57, 246 and 247 can be found on page 6 [0066], page 7 [0072], page 9 end of [0089] for magnetic field, page 10 [0098], and in examples 1-4 of the Application as published.

The Examiner alleged that "applicant merely alleges that removing the linkers of Guire *et al.* would render it inoperable, but has not shown why or how it would render the invention inoperable". The Examiner further alleged that "Since Liang *et al.* does teach that the Si-linker DNA molecules can be bound to a substrate via the silane, and to another nucleic acid via the DNA molecule, and Guire *et al.* teach that the second nucleic acid may be connected to another substrate, and since applicant has not provided any evidence showing why the molecule of Liang *et al.* would not be capable of functioning as the multi-ligand conjugate of Guire *et al.*, one of ordinary skill in the art at the time of the invention would have had a reasonable expectation of success in utilizing the molecule of Liang *et al.* in the method of Guire *et al.*." Applicants disagree.

The Examiner has not established a *prima facie* case as to why one skilled in the art would want to remove the linkers as disclosed in Guire. Guire discloses that the binding partner has a linker. The linker requirement in the form of a binding partner or in the form of a polymerizable backing layer according to Guire can be found throughout Guire's reference, for example:

1. column 15 lines 13-30
2. column 16, lines 16-37 and lines 57-67.
3. column 17, lines 1-28.
4. column 18, lines 16-20 and lines 38-40.
5. column 19, lines 23-29 and lines 60-64.
6. column 20, lines 54-58.

7. column 21, lines 1-2.
8. column 24, lines 4-12 and lines 27-51.
9. column 26, lines 1-7.

There is no teaching, suggestion, or motivation in Guire that one should or should consider removing the linkers or that the method is operable if the linkers are removed, and there is no suggestion in Guire nor in Liang that the molecules disclosed by Liang are capable of functioning as the multi-ligand conjugates of Guire. The molecules of Liang are adsorbed on surfaces as free, unbound molecules from a solution in which the molecules are randomly oriented.

According to the MPEP 2143.01:

"Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so. *In re Kahn*, 441 F.3d 977, 986, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006) (discussing rationale underlying the motivation-suggestion-teaching requirement as a guard against using hindsight in an obviousness analysis). The teaching, suggestion, or motivation must be found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)."

A person of ordinary skill in the art, at the time the invention was made, would not suggest to remove the linkers for practicing Guire's invention because the linker is part of the disclosure of Guire. Further, there is no motivation to remove the linkers in Guire. The Examiner had not provided any basis why a person of ordinary skill in the art would remove the linkers. The Examiner's uses hindsight analysis to piece together two unrelated disclosures in an attempt to arrive at the claimed invention. Moreover, as discussed above, the unrelated disclosures when combined do not teach all elements of the present invention.

Therefore, Applicants assert that such hindsight analysis is impermissible and cannot be used to attempt to establish a case of obviousness.

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Applicants maintain that Guire does not disclose a method in which the "second set of molecules" binds directly to a surface of a "second substrate". Liang does not disclose binding Silane-functionalized molecules to a substrate while their DNA part is associated with another molecule which in itself is bound to a "first substrate" as part of an ordered molecular layer.

In view of this, and the absence of any clear pointer from Guire or from Liang to the patterning methods of the present invention, it cannot fairly be said – other than through the impermissible use of hindsight – that the second set of molecules could be bound directly to the surface of the second substrate as disclosed in the present invention.

Accordingly, Applicants respectfully request that the Examiner withdraw the rejections to claims 1, 49, 50, 52, 57, 106, 107, 109, 246 and 247 over Guire in view of Liang.

In the Office Action, the Examiner rejected claims 40 and 97 under 35 U.S.C. § 103(a), as being unpatentable over Guire *et al.* [US 6,514,768] in view of Liang *et al.* [US 2003/0148304] and further in view of Aksay *et al.* [US 2001/0023024]. Applicants disagree.

Applicants maintain that as discussed above, Guire in view of Liang can not render obvious Applicants claimed invention. Therefore, Guire in view of Liang and further in view of Aksay, can not render obvious Applicants claimed invention.

Accordingly, Applicants respectfully request withdrawal of the rejections to claims 40 and 97.

### **Conclusion**

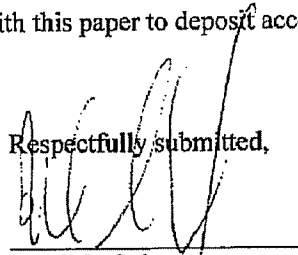
In view of the foregoing amendments and remarks, Applicants assert that the pending claims are allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

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Please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,



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